C. GORDON.

Breech-Loading Ordnance.

No. 138,146. Patented April 22, 1873.

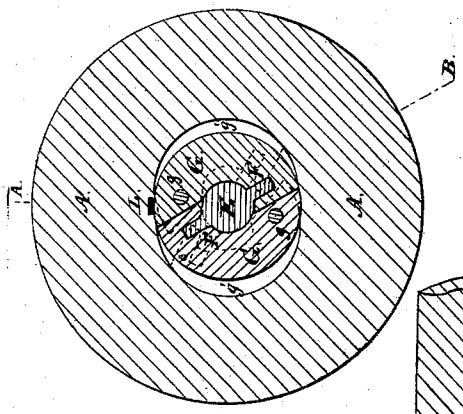

Fig. 2.

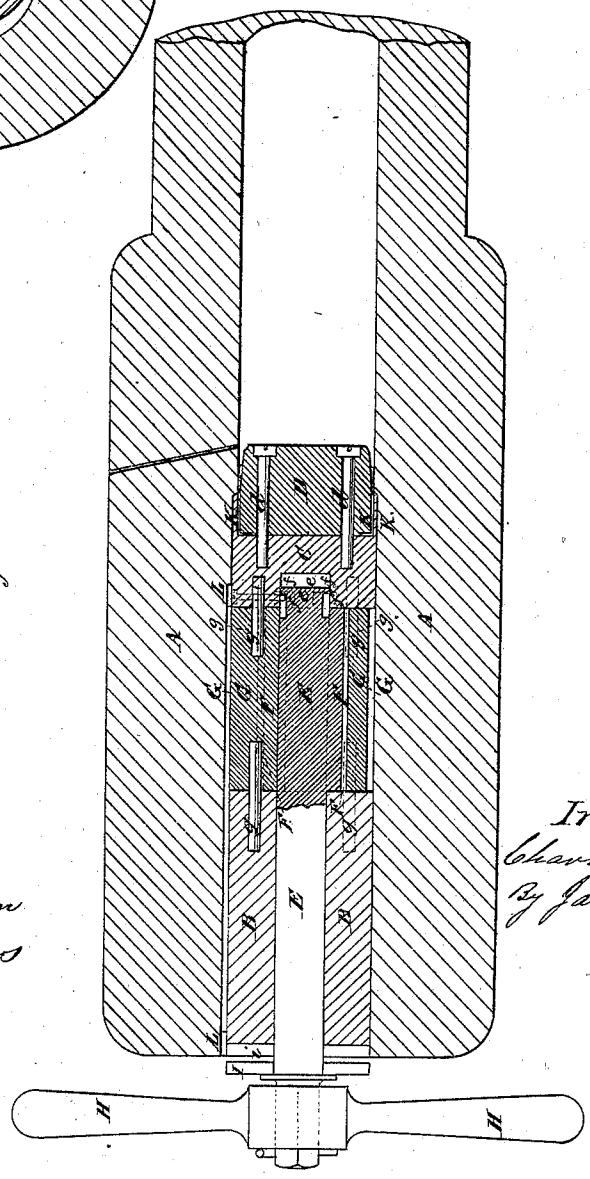

Fig. 1.

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CHARLES GORDON, OF GOSWELL ROAD, ENGLAND.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. **138,146**, dated April 22, 1873; application filed April 18, 1873.

To all whom it may concern:

Be it known that I, CHARLES GORDON, of Goswell Road, in the county of Middlesex, England, have invented certain Improvements in the Construction of Breech-Loading Cannon, of which the following is a specification:

My invention consists in certain improvements in breech-loading cannon, and whereby great advantages are obtained. The breech end of the cannon, which is bored of a cylindrical form for the introduction of the charge, is closed by means of a breech-piece which is inserted at the rear end thereof. This breech-piece is of a compound nature, and consists of four principal parts, which are connected by a spindle passing through the center of the two rear portions and attached loosely to the third portion thereof by means of a collar and stud. These parts are the rear end of the breech-piece, which is of a cylindrical form, the center portion, which is composed of two several parts arranged as hereinafter mentioned, and another cylindrical block, into which is screwed the head of the breech-piece, the exterior of which is of a slightly conical form. The two parts of which the central portion of the breech-piece consists are respectively connected by means of pins with the rear and forward cylindrical portions of the breech-piece, and when in their normal position have a cylindrical section. The pins upon which the said blocks are mounted are so placed that the latter, upon being partially rotated, assume an eccentric position. The interior of the said two pieces so connected with the first and third portions of the breech-block are formed with grooves therein which are capable of receiving projections formed on or attached to the before-mentioned spindle. The rear end of the spindle, which projects beyond the rear end of the gun, is furnished with a lever or levers by means of which it can be partially rotated, thus, by means of the projections thereon, throwing the eccentrically-mounted pieces outward and causing the exterior surfaces thereof to take into recesses formed in the hollow portion of the rear end of the gun, and thus hold the entire breech-piece perfectly firm, and, when returned to their normal position, allow the breech-piece to be withdrawn. In order to prevent the breech-piece from turning when the spindle is rotated two studs are provided, one at each end of the breech-piece, which studs work in a groove formed in the rear of the breech of the gun. The firmness of the breech-piece is increased by the projections on the central spindle fitting into recesses formed in the third portion of the breech-piece, and which they are caused to enter by pushing the spindle forward when the eccentric pieces have taken into the corresponding recesses in the gun. In order to prevent the passage of gas upon explosion taking place I place a ring or collar of platinum, copper, or other metal possessing the requisite degree of durability and elasticity around the slightly-conical block at the forward end of the breech-piece. Such ring or collar is also of a slightly conical or divergent form, but reversed with reference to the conical block at the end of the breech-piece so that a small space is left between them. Upon the discharge being effected the gas which results therefrom enters the last-mentioned space, and, by expanding the collar, causes the anterior edges of the same to press against the interior surface of the bore of the gun and effectually prevents any escape of gas or communication with the breech mechanism.

My invention will be more clearly understood by reference to the annexed drawing, in which Figure 1 is a longitudinal section through the line A B in the transverse section shown in Fig. 2. Both these figures show the breech-piece unlocked and ready for withdrawal.

In these figures similar letters indicate similar parts.

A is the rear portion of the gun. B is the first or rear portion of the breech-block; C, the third or forward portion of the same; D, the head of the breech-piece which is attached to the third portion C by means of the screws *d*. E is the spindle which passes through the breech-piece and actuates the eccentrically-mounted pieces G. *e* is the collar which retains the spindle E in position in the third part C. F F are the wings on the spindle E, which enter the groove formed in the pieces G for the purpose of throwing the same out. *f f* are the recesses cut in the third piece C, and into which the forward ends of the wings F enter for the purpose of giving greater firmness to the breech-piece, as hereinbefore de-

scribed. G G are the two parts which form the central portion of the breech-block and which rotate eccentrically and enter the recesses g' g', Fig. 2, for the purpose of locking the breech-block. g g are the pins by which the parts G G are attached to the rear and forward portions of the breech-piece, g' g', Fig. 2, being the recesses cut in the breech of the gun for the reception of the eccentrically-mounted pieces G G, when the same are rotated for the purpose of locking the breech-piece. H is the lever by which the spindle E is partially rotated. K is the metallic ring or collar placed around the head of the breech-piece D for the purpose of preventing the escape of gas into the mechanism of the breech-piece. L L are the studs fixed to the first and third portions of the breech-piece for the purpose of preventing the same from turning, as hereinbefore mentioned.

I claim—

The combination of the rear block B, block C, head-piece D, eccentric locking-blocks G G, spindle E, and cams F, all united together and operating in connection with the breech of a gun, substantially as described.

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